FIG. 1

MAIN CONTROLLER

12

BACKPLANE

14

10

POTS

16

SPLITTER

20

DSL

18

TO CONSUMER PREMISES

FIG. 2

36

34

30

32

4 24 136 162 550 1104

FREQUENCY (KHz)

FIG. 3

42

44

40

48-72V

RING VOLTAGE (V)

0

46

TIME (MILLISECONDS)

FIG. 4

ACTIVE TRAFFIC

114 112 114 112 114 102

110

RING VOLTAGE (V)

108 104 TIME (MILLISECONDS) 106

100

FIG. 5

136

MAIN CONTROLLER
122
μP   MEM
132   134

POTS RING DETECTION — 138

NOTIFICATION — 140

120

BACKPLANE
130

146

NOTIFICATION DETECTION — 150

DSL TRAFFIC CONTROL — 152

BUFFER CONTROL — 154

DSL
MEM   μP
144   142
124

SPLITTER
128

POTS
126

TO CONSUMER PREMISES

FIG. 6

200

218

MAIN CONTROLLER

| μP | MEM |

210 212 202

BACKPLANE
206

220 — POTS RING DETECTION

222 — DSL NOTIFICATION

224 — POTS RINGING CONTROL

226 — DSL TRAFFIC CONTROL

228 — DSL BUFFER CONTROL

POTS/DSL

| MEM | μP |

216 214

204

SPLITTER
208

230

TO CONSUMER PREMISES

FIG. 9

400 — START

410 — ACTIVE DSL TRAFFIC

420 — IS A CHANGE IN POTS CONDITION ABOUT TO OCCUR ?

NO

YES

430 — PROVIDE NOTIFICATION

440 — TEMPORARILY STOP DOWNSTREAM DSL DATA

DELAY CHANGE IN POTS CONDITION — 450

INITIATE POTS CONDITION — 460

TRANSMIT IDLE DSL DATA — 470

FIG. 7

TO CONSUMER PREMISES

BACKPLANE

252

260

282

274

SPLITTER
SPLITTER
SPLITTER
SPLITTER

258

274

276

264

272

POTS
POTS
POTS
POTS

256

272

266

270

254

DSL
DSL
DSL
DSL

266

262

280

CONTROLLER

268

250

300

302

FIG. 8

CARRIER EQUIPMENT

CONTROLLER
308

BUS
316

POTS LINE
SYSTEM
312

SPLITTER
314

ADSL LINE
SYSTEM
310

N
306

CONSUMER
PREMISES
EQUIPMENT

SPLITTER/
MICROFILTER
320

ADSL
MODEM
322

324   324   324

304